

APS SAFETY NOTICE

SAFE HANDLING OF LEAD

Health effects from lead exposure are a concern both at the workplace and in the home. An adult's exposure to lead is usually from occupational sources. Children are exposed (primarily at home) from surface dust, floors, and chewable surfaces contaminated with lead. Lead has no beneficial effect on humans. Between 5% and 10% of ingested lead passes from the intestinal tract into the bloodstream, which distributes the lead to red blood cells, soft tissues, and bone. Lead in the body is eliminated very slowly, mainly by the kidneys and digestive tract.

ANL follows the guidelines set by the Occupational Safety and Health Administration regulations in order to minimize the occupational (workplace) exposure to lead.

The main source of lead at the APS is from bulk shielding materials in the form of lead bricks, lead shot, and lead sheets. Those employees and resident users who routinely handle significant amounts of lead are identified via their job hazards questionnaire; appropriate training, monitoring, procedures, and controls are enacted to minimize exposure to lead.

The presence of lead in the workplace in itself seldom indicates harmful levels of airborne lead. In fact, today's modern lead smelting and fabrication facilities generally have very low airborne lead concentrations. Dozens of air monitoring samples taken by ANL industrial hygienists during APS lead handling operations have shown no significant airborne lead health hazards.

Lead is most easily transferred to the human body through inhalation, but ingestion of lead dust can come through many types of exposures. Lead is not readily absorbed through the skin. But lead dust on the hands, skin, or clothing can easily be transferred to the mouth by eating or drinking and can be brought into the home where family members are then at risk of exposure.

All of the controls and barriers that can be put in place to minimize exposure to lead can be for naught if workers do not follow proper hygiene practices, such as not eating or drinking in lead handling or storage areas, or by improper use of personnel protective equipment.

REMEMBER

No eating, drinking, smoking, gum chewing, etc. are allowed in lead storage or handling areas. Always wear gloves when handling more than a few pieces of lead sheet or bricks. Always wear non-porous gloves when handling any lead shot. Always wash your hands after handling lead.

**The Bad Idea
Hall of Fame — #1***



**Based on an actual occurrence
at the APS*

For more information on lead hazards and controls at APS, see:

ANL ESH MANUAL SECTION 4.12: SAFE HANDLING OF LEAD
APS LEAD HANDLING PROCEDURE P1110-00120